



Los Angeles County Department of Regional Planning

Planning for the Challenges Ahead



December 17, 2014

Richard J. Bruckner
Director

TO: Esther L. Valadez, Chair
Laura Shell, Vice Chair
David W. Louie
Curt Pedersen
Pat Modugno

FROM: Carmen Sainz, Supervising Regional Planner
Community Studies East Section

ADDITIONAL HEARING MATERIALS
TREE PLANTING ORDINANCE
PROJECT NO. R2007-02988-(1-5)
ADVANCE PLANNING CASE NO. 201400003
HEARING DATE: DECEMBER 17, 2014
ITEM 6

Since submitting the Staff Report for the Tree Planting Ordinance to your Commission on December 4, 2014, staff completed the final draft Tree Planting Ordinance to reflect comments recently received from Public Works and made revisions to the Resolution and the Tree Planting Guide. Please find attached, the draft Tree Planting Ordinance, Tree Planting Guide and draft Resolution.

The following changes were made to The Tree Planting Ordinance:

- Section 22.52.2120.D.1 was revised to, "Trees shall be in planted in locations that maintain the required lines of sight for safe pedestrian and vehicular movement, to the satisfaction of the Director in consultation with Department of Public Works."
- Section 22.52.2120.D.3 was added. "Trees shall not be planted within public easements."
- Section 22.52.2130.A was revised to, "For projects subject to Sections 22.52.2110.A, required trees shall be depicted on the site plan and the species labeled."

The following paragraph was added to the Tree Species section of the Guide (page 2):

- "When planting in locations where root damage to structures or infrastructure is a concern, it is recommended that species from the Tree Species List with low root damage potential be chosen. Additionally, it is recommended that underground root barriers be installed to deflect roots downward."

Resolution 12 was revised to, "The Ordinance includes restrictions on planting locations to maintain the required lines of sight for safe pedestrian and vehicular movement, avoid public easements and not adversely impact Fire Department operations or response times."

If you have any questions regarding this project, please contact **Dean Edwards** at (213) 974-6425 or dedwards@planning.lacounty.gov, Monday through Thursday from 7:30 AM to 5:30 PM. Our offices are closed on Fridays.

Attachments

- A. Draft Resolution
- B. Draft Ordinance
- C. Tree Planting Guide

CS: de

**DRAFT RESOLUTION OF THE REGIONAL PLANNING COMMISSION
COUNTY OF LOS ANGELES
TREE PLANTING ORDINANCE**

WHEREAS, the Regional Planning Commission ("Commission") of the County of Los Angeles ("County") has reviewed the amendments to Title 21 (Subdivisions) and Title 22 (Planning and Zoning) of the Los Angeles County Code that 1) repeal the drought tolerant landscaping and green building requirements in Sections 21.24.430 and 21.24.440 and Parts 20 and 21 of Chapter 22.52 that are now found in Title 31; and 2) establish tree planting requirements for most new projects (collectively the "Tree Planting Ordinance" or "Ordinance"). Division 1 of Chapter 22.08 is to be amended to add definitions pertinent to the new tree planting requirements. Part 20 of Chapter 22.52 is to be amended to establish the new tree planting requirements.

WHEREAS, the Commission finds as follows:

1. November 18, 2008 The Board of Supervisors ("BOS" or "Board") adopted the following ordinances:

Ordinance No. 2008-0064 entitled, "An ordinance amending Title 21 - Subdivisions and Title 22 - Planning and Zoning of the Los Angeles County Code to establish drought-tolerant landscaping requirements for projects constructed after January 1, 2009."

Ordinance No. 2008-0065 entitled, "An ordinance amending Title 21 - Subdivisions and Title 22 - Planning and Zoning of the Los Angeles County Code to establish green building development standards for projects constructed after January 1, 2009."

The ordinances took effect December 18, 2008 and became operative January 1, 2009.
2. November 23, 2010 the BOS adopted Ordinance No. 2010-0058 entitled, "An ordinance adding Title 31 – Green Building Standards Code of the Los Angeles County Code, relating to the adoption of the 2010 California Green Building Code by reference, with certain changes and modifications." The ordinance took effect December 23, 2010 and become operative January 1, 2011.
3. November 26, 2013 the BOS adopted Ordinance No. 2013-0053 entitled, "An ordinance amending Title 31 - Green Building Standards Code of the Los Angeles County Code, by adopting the 2013 California Green Building Standards Code by reference, with certain changes and modifications, and making other revisions thereto." The ordinance became operative on January 1, 2014.
4. Since November 23, 2010 when the BOS adopted an ordinance that added Title 31 - Green Building Standards Code of the Los Angeles County Code, there have been redundancies and inconsistencies in the County Code because Title 22 also had green building and drought tolerant requirements. The Ordinance will remove said redundancies and inconsistencies.
5. The Ordinance establishes new tree planting requirements that provide environmental benefits. Trees planted pursuant to the Ordinance will reduce greenhouse gasses by absorbing carbon dioxide, water pollution by retaining storm water onsite, and the urban heat island effect by shading impervious surfaces.
6. Excluding certain exemptions, the tree planting requirements apply to: new buildings; additions with a cumulative floor area of at least 50 percent of the total existing building floor area on the subject property, within any 12 month period; new uncovered surface parking lots with a minimum of 15 parking spaces; and existing uncovered surface parking lots expanded by 15 or more parking spaces.

7. The number of required trees for new buildings and aforementioned additions is based on land use and square footage of developed area which is defined by the Ordinance as the area of the project site where construction or expansion has or will take place.
8. The number of required trees for the aforementioned parking lots is based on the requirement that at least 50 percent of uncovered parking areas be shaded with trees within 15 years of planting, consistent with the shade plan requirements in Appendix A.
9. The Ordinance requires that tree species be those that provide adequate shade, are not invasive, resistant to local pest and diseases, adaptable to the local climate, and appropriate for the planting location.
10. The Ordinance requires that the Director prepares and maintains the Tree Species List referenced in the Tree Planting Guide which satisfies the aforementioned tree species requirements.
11. The Ordinance establishes a minimum planting size of 15 gallons and a trunk diameter of .75 to 1.5 inches as measured six inches above the soil line.
12. The Ordinance includes restrictions on planting locations to maintain the required lines of sight for safe pedestrian and vehicular movement, avoid public easements and not adversely impact Fire Department operations or response times.
13. The Ordinance requires planted trees be staked, have irrigation systems where applicable, and be replaced when they don't survive.
14. The Ordinance allows modification of development standards when: the soil type would prevent tree survival as documented in a notarized letter by a certified arborist and submitted to the Director, the requirement would conflict with other provisions set forth in the County Code, and parking lots are retrofitted with solar panels.
15. The Ordinance includes an Appendix A that establishes shade plan requirements.
16. The Tree Planting Guide is a supplement to the Ordinance that includes detailed shade plan requirements; a Tree Species List; and recommendations for irrigation, professional services and resources for tree planting and maintenance.
17. The Tree Planting Ordinance is consistent with and supports the goals and policies of the Los Angeles County General Plan.
18. The adoption of the Tree Planting Ordinance is exempt from the California Environmental Quality Act (CEQA) pursuant to Sections 15308 (Actions by Regulatory Agencies for Protection of the Environment) of Title 14 of the California Code of Regulations.
19. Two communications regarding the Ordinance were received from the public. One identified concerns about tree impacts to solar facilities. The impacts to solar facilities are covered by the California Solar Shade Control Act (Pub Res C § 25980 et seq.). The other was from the organization TreePeople. The Ordinance was revised to address TreePeople's comments.
20. Pursuant to the provisions of Section 22.60.174 of the County Code, the public hearing notice was published in the *Los Angeles Times* and *La Opinión* newspapers on May 20, 2014.
21. The location of the documents and other materials constituting the record of proceedings upon which the Commission's decision is based in this matter is at the

Los Angeles County Department of Regional Planning, 13th Floor, Hall of Records, 320 West Temple Street, Los Angeles, CA 90012. The custodian of such documents and materials shall be the Section Head of the Community Studies East Section, Los Angeles County Department of Regional Planning.

NOW, THEREFORE, BE IT RESOLVED THAT, the Regional Planning Commission recommends to the Los Angeles County Board of Supervisors as follows:

1. That the Board conducts a public hearing to consider proposed amendments to Title 21 (Subdivisions) and Title 22 (Planning and Zoning) of the Los Angeles County Code to repeal the drought tolerant landscaping and green building requirements and establish the Tree Planting Ordinance; and
2. That the Board finds the adoption of the Tree Planting Ordinance exempt from the California Environmental Quality Act (CEQA) Guidelines, pursuant to Section 15308 (Actions by Regulatory Agencies for Protection of the Environment) of Title 14 of the California Code of Regulations; and
3. That the Board adopts the attached ordinance amending Title 21 (Subdivisions) and Title 22 (Planning and Zoning) of the Los Angeles County Code and determines that the amendments are compatible with and supportive of the goals and policies of the Los Angeles County General Plan.

I hereby certify that the foregoing was adopted by a majority of the voting members of the Regional Planning Commission of the County of Los Angeles on December 17, 2014.

By: _____

Rosie O. Ruiz, Commission Secretary
Regional Planning Commission
County of Los Angeles

APPROVED AS TO FORM:
OFFICE OF THE COUNTY COUNSEL

By: _____
Casey Youn
Deputy County Counsel

VOTE

Concurring:

Dissenting:

Abstaining:

Absent:

Action Date: December 17, 2014

DRAFT TREE PLANTING ORDINANCE

An ordinance amending Title 21 – (Subdivisions) and Title 22 – (Planning and Zoning) of the Los Angeles County Code to repeal the drought tolerant landscaping and green building requirements; and to establish tree planting requirements for projects constructed after the effective date of this ordinance amendment.

The Board of Supervisors of the County of Los Angeles ordains as follows:

SECTION 1. Section 21.24.430 and 21.24.440 of Title 21 are hereby repealed in their entirety.

SECTION 2. Chapter 22.08 of Title 22 is hereby amended to read as follows:

22.08.040 D.

“Developed area” shall mean the area of the project site where construction or expansion has or will take place.

22.08.190 S.

“Shade Plan” shall mean a landscape plan that depicts and quantifies the amount of tree shade for a project site as set forth in Appendix A.

22.08.200 T.

“Tree Species List” shall mean the list of tree species prepared and maintained pursuant to Section 22.52.2120.B.

22.08.210 U.

“Uncovered Parking Area” shall mean, for the purpose of implementing Part 20 Tree Planting Requirements, uncovered impervious surface areas of a parking lot that includes parking stalls, pedestrian loading areas, driveways within the property line, areas for maneuvering and walkways within the parking lot but excludes: areas covered by solar panels; truck loading, maneuvering and parking areas not connected to and exclusive of any vehicle parking; and display, sales, service and vehicle storage areas associated with uses such as automobile dealerships.

“Utility-scale renewable energy facility, ground-mounted” shall mean a facility affixed to the ground where renewable resources are used to generate energy primarily for off-site use. This definition includes all on-site and off-site equipment and accessory structures related to the facility, including but not limited to solar collector arrays, wind turbines, mounting posts, substations, electrical infrastructure, transmission lines, operations and maintenance buildings, and other accessory structures.

SECTION 3. Part 20 of Chapter 22.52 is hereby repealed in its entirety.

SECTION 4. Part 20 of Chapter 22.52 is hereby added to read as follows:

Part 20

TREE PLANTING REQUIREMENTS

- 22.52.2100 Purpose.
- 22.52.2110 Applicability.
- 22.52.2120 Development Standards.
- 22.52.2130 Plan Requirements.
- 22.52.2140 Modification of Development Standards.

22.52.2100 Purpose.

The purpose of this Part 20 is to establish tree planting requirements that provide environmental benefits. Trees planted pursuant to this Part 20 will reduce greenhouse gasses by absorbing carbon dioxide, water pollution by retaining storm water onsite and the urban heat island effect by shading impervious surfaces.

22.52.2110 Applicability.

- A. This Part 20 shall apply to projects that include:
 - 1. New buildings as defined in Section 22.08.020 of the Los Angeles County Code;
 - 2. Additions with a cumulative floor area of at least 50 percent of the total existing building floor area on the subject property, within any 12 month period.
 - 3. New uncovered surface parking lots with a minimum of 15 parking spaces and existing uncovered surface parking lots expanded to have 15 or more parking spaces.
- B. The following projects are exempt from the requirements of this Part 20:
 - 1. Any project where a complete application was filed with the Department prior to the effective date of this ordinance;
 - 2. Accessory structures and buildings;
 - 3. Utility-scale renewable energy facilities, ground-mounted.
- C. Trees required by this Part 20 are minimum requirements; however, they may contribute to fulfilling all other landscaping required in this Title 22, including any such requirements in a Community Standards District.

22.52.2120 Development Standards.

A. Number of Trees.

1. Projects subject to Sections 22.52.2110.A.1 and 22.52.2110.A.2 shall comply with the following requirements:

a. For three or fewer residential units on the project site, a minimum of two trees shall be planted.

b. For four or more residential units on the project site, a minimum of one tree shall be planted for every 5,000 square feet of developed area.

c. For non-residential or mixed-use developments, a minimum of three trees shall be planted for every 10,000 square feet of developed area of the project site.

2. Any existing tree located on the project site with a minimum trunk diameter of .75 inches, as measured six inches above the soil line, may count towards meeting the requirement of Section 22.52.2120.A.1.

3. For projects subject to Section 22.52.2110.A.3, at least 50 percent of uncovered parking areas, as defined in Section 22.08.140, shall be shaded with trees within 15 years of planting, consistent with the shade plan requirements of Appendix A. Trees planted pursuant to this requirement may count towards the requirements of Sections 22.52.2120.A.1.b and 22.52.2120.A.1.c.

B. Species. The tree species planted shall be those that provide adequate shade, are not invasive, are resistant to local pest and diseases, are adaptable to the local climate, and are appropriate for the planting location. The Director shall prepare and maintain the Tree Species List, which shall contain a list of tree species which the Director has determined satisfy the criteria set forth in this subsection.

C. Planting Size. Required trees shall be a minimum size of 15 gallons and shall have a trunk diameter of .75 to 1.5 inches as measured six inches above the soil line.

D. Location.

1. Trees shall be planted in locations that maintain the required lines of sight for safe pedestrian and vehicular movement, to the satisfaction of the Director in consultation with Department of Public Works.

2. Trees planted near buildings or fire lanes shall not be in locations that adversely impact Fire Department operations or response times, to the satisfaction of the Fire Department.

3. Trees shall not be planted within public easements.

E. Maintenance.

1. Trees shall be supported with staking and ties, made of soft and mold resistant material (such as rubber), until the trees are able to support themselves.
2. Trees subject to Sections 22.52.2120.1.b, 22.52.2120.1.c and 22.52.2120.3, and not planted in turf shall require an irrigation system.
3. Trees failing to survive shall be replaced.

22.52.2130 Plan Requirements.

- A. For projects subject to Sections 22.52.2110.A, required trees shall be depicted on the site plan and the species labeled.
- B. For projects subject to Section 22.52.2110.A.3, a shade plan that is consistent with the requirements of Appendix A is required.
- C. For projects located in a Fire Hazard Severity Zone, required site and/or shade plans shall be routed to the Fire Department's Fuel Modification Unit for review and approval in order to ensure proposed tree locations are in compliance with Title 32 of the County Fire Code.

22.52.2140 Modification of Development Standards.

The requirements of Section 22.52.2120.A may be modified by the Director, without additional fees where:

- A. The soil type would prevent tree survival as documented in a notarized letter by a certified arborist and submitted to the Director; or
- B. The requirement would conflict with other provisions set forth in the County Code; or
- C. The parking lot subject to Subsection 22.52.2120.3 is retrofitted with solar panels.

APPENDIX A – SHADE PLAN REQUIREMENTS

In addition to site plan requirements, the shade plan shall comply with the following requirements:

1. Depict and label drainage features such as drop inlets, catch basins and swales.
2. Indicate landscape details such as soil preparation and tree staking, where appropriate.
3. Depict and label heights of any power lines, lighting, signage or other above ground infrastructure.

4. Depict planters in parking lots with concrete curbs that are a minimum of six (6) inches high/wide. Label the inside planter width that conforms to the minimum size identified in the Tree Species List.

5. Depict location and canopy of existing trees that shade the uncovered parking area. Label tree "To Remain" or "To Be Removed". Canopies of trees to remain shall be drawn to scale at the size of 15 years maturity as indicated in the Species List.

6. Depict location and canopy of proposed trees. Canopies shall be drawn to scale at the size of 15 years maturity.

7. Label trees with symbols keyed to the shade calculation table to identify species. For trees planted under power lines, signage or other above ground infrastructure, the species shall not have a maximum height that exceeds the height of the lowest point of above ground infrastructure that the tree is planted under.

8. Label trees with shade credit. Shade credit is the percent of parking area directly beneath the canopy or drip line that will be shaded by the tree at 15 years of maturity and shall be estimated at 25, 50, 75 or 100 percent. Areas where canopies overlap shall not be counted twice.

9. Include a shade calculation table (table). If a site has two or more unconnected parking areas, shade shall be calculated separately for each area using a separate calculation table. The table shall include the following:

- a. Uncovered parking area.
- b. Required shade area.
- c. Tree symbols keyed to the shade plan.
- d. Botanical and common name for proposed trees and existing trees.
- e. Tree canopy diameter at 15 years maturity for each species
- f. Tree canopy area at 15 years maturity for each species.
- g. Tree quantity per species and shade credit (100%, 75%, 50% or 25%).
- h. Shade area (square feet) per species and shade credit.
- i. Provided shade area per species.
- j. Total provided shade area.
- k. Percent Shade Coverage.

SECTION 5. Part 21 of Chapter 22.52 is hereby repealed in its entirety.

TREE PLANTING GUIDE

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I. INTRODUCTION

To implement Title 22 Part 20 Tree Planting Requirements (Requirements), this document includes detailed shade plan requirements; a list of approved tree species (Tree Species List); and recommendations for irrigation, professional services and resources for tree planting and maintenance.

II. PROFESSIONAL SERVICES

Planting trees are both an investment in the future and a financial investment. To protect this investment, maximize the [benefits](#) of planted trees and ensure that the trees thrive, it is recommended that the services of qualified professionals be used when placing, selecting, planting and maintaining required trees.

Title 22 Part 20 requires shade plans for new uncovered surface parking lots. Shade plans should be prepared by professional landscape architects. To locate a licensed landscape architect, contact the [American Society of Landscape Architect \(ASLA\)](#).

Three professional organizations, [The International Society of Arboriculture \(ISA\)](#), [Tree Care Industry Association \(TCIA\)](#), and [American Society of Consulting Arborists \(ASCA\)](#) certify arborists to provide critical tree care services such as planting, soil modification and aeration, pruning, pest and disease diagnosis and treatment, and tree removal.

Title 22 Part 20 requires irrigation systems for certain projects. Irrigation systems should be designed, installed and programmed by a certified irrigation professional. To locate a certified irrigation professional, contact the [Irrigation Association](#).

III. TREE SPECIES

The species of planted trees must meet certain criteria set forth in Title 22 Part 20. The attached Tree Species List identifies shade tree species that have been deemed suitable for planting in developed areas. Additionally, invasiveness, climate change, and tree pest and diseases in the

region were considered in the preparation of the list. The Tree Species List includes both botanical and common names, and also the following associated additional information to aid in the selection of suitable species for a particular location: canopy diameter, height, type (evergreen, deciduous or semi deciduous), Sunset Magazine Climate Zone, sun requirement, water requirement, planter size requirement, root damage potential, growth rate, California native and notes regarding the species. The Tree Species List includes a key on a separate sheet that describes the fields and abbreviations used in the list.

When planting in locations where root damage to structures or infrastructure is a concern, it is recommended that species from the Tree Species List with low root damage potential be chosen. Additionally, it is recommended that underground root barriers be installed to deflect roots downward.

Large tree species provide greater benefits than smaller species trees. It is therefore recommended that the largest tree species that is appropriate for the planting location be selected whenever possible. For further information, please see the US Forest Service's Large Tree Argument publication.

Los Angeles County Fire Department's Division of Forestry's tree nurseries may have trees for planting available to the public at no cost. For further information and prior to visiting, please call the unit in your area.

Henninger Flats Forestry Unit
2260 Pinecrest Drive
Altadena, CA 91001-2123
(626) 794-0675

Lake Hughes Forestry Unit
42150 N. Lake Hughes Road
Lake Hughes, CA 93532-9706
(661) 724-1810

Malibu Forestry Unit
942 N. Las Virgenes Road
Calabasas, CA 91302-2137
(818) 222-1108

San Dimas Forestry Unit
1910 N. Sycamore Canyon Road
San Dimas, CA 91773-1220
(909) 599-4615

Saugus Forestry Unit
28760 N. Bouquet Canyon Road
Saugus, CA 91390-1220
(661) 296-8558

IV. SHADE PLANS

All projects subject to Part 20 of Title 22 of the Los Angeles County Code that include a new uncovered surface parking lot, require submittal of a shade plan to the Department of Regional Planning for review and approval to ensure the parking lot is designed to result in at least 50 percent shading of uncovered parking areas by trees within 15 years. See Figure A for an example of a shade plan. In addition to items required for site plans, the shade plan shall comply with the following:

1. Depict and label drainage features such as drop inlets, catch basins and swales. The parking lot should be designed so that the trees benefit by the drainage.

2. Indicate landscape details (i.e., soil preparation, tree staking, etc.) where appropriate.
3. Depict and label heights of any power lines, lighting, signage or other above ground infrastructure. Parking lot lighting should not conflict with tree locations and growth. Light standards no greater than 16 feet in height are strongly encouraged.
4. Depict planters in parking lots with minimum six (6) inch high/wide concrete curbs for protection. Label inside planter width that conforms to the minimum size identified in the Tree Species List. Continuous planting islands are encouraged to allow for multiple tree plantings to increase soil area available for roots.
5. Depict location and canopy of existing trees that shade the parking area. Label tree "To Remain" or "To Be Removed". Canopies of trees to remain shall be drawn to scale at the size of 15 years maturity as indicated in the Tree Species List.
6. Depict location and canopy of proposed trees. Canopies shall be drawn to scale at the size of 15 years maturity as indicated in the Tree Species List.
7. Label trees with symbols keyed to the shade calculation table (below) to identify species. It is recommended that the species of trees be varied throughout the parking lot. For trees planted under power lines, signage or other above ground infrastructure, the species shall not have a height identified in the Tree Species List that exceeds the height of the lowest point of above ground infrastructure that the tree is planted under. Trees located within storm water runoff areas should be species with a moderate to very high water requirement.
8. Label trees with shade credit. Shade credit is the percent of parking area directly beneath the canopy or drip line that will be shaded by the tree at 15 years of maturity and shall be estimated at 25, 50, 75 or 100 percent. Areas where canopies overlap shall not be counted twice.
9. Shade calculation table (table). See Figure B for example of a completed table. Include any existing trees that will remain. If a site has two or more unconnected parking areas, shade shall be calculated separately for each area using a separate calculation table. A spreadsheet that calculates tree shade for parking lots (Shade Calculator) is on the Department of Regional Planning's website. The table shall include the following:
 - a. Uncovered parking area. Uncovered impervious surface area of the parking lot that includes parking stalls, pedestrian loading areas, driveways within the property line, areas for maneuvering and walkways within the parking lot. Excludes: areas covered by solar panels, truck loading areas in front of overhead doors; truck maneuvering and parking areas unconnected to and exclusive of any vehicle parking; and display, sales, service, and vehicle storage areas associated with uses such as automobile dealerships or lumber yards.
 - b. Required shade area. The total area required to be shaded by trees. This field is calculated by the Shade Calculator.
 - c. Tree symbols keyed to the shade plan. A unique identifier for each tree species. Example: "T1".
 - d. Botanical and common name for proposed trees and existing trees.

- e. Tree canopy diameter at 15 years maturity for each species. Diameters shall be from the Tree Species List.
- f. Tree canopy area at 15 years maturity for each species. This field is calculated by the Shade Calculator
- g. Tree quantity per species and shade credit (100%, 75%, 50% or 25%). This is number of provided trees per species and shade coverage.
- h. Shade area (square feet) per species and shade credit. The area of provided shade for each species and shade credit. This field is calculated by the Shade Calculator.
- i. Provided shade area per species. The total provided shade area for each species. This field is calculated by the Shade Calculator.
- j. Total provided shade area. The total provided shade area for all species. This field is calculated by the Shade Calculator.
- k. Percent Shade Coverage. Percentage of the parking area to be shaded by trees. This field is calculated by the Shade Calculator.

Figure A. Shade Plan Example

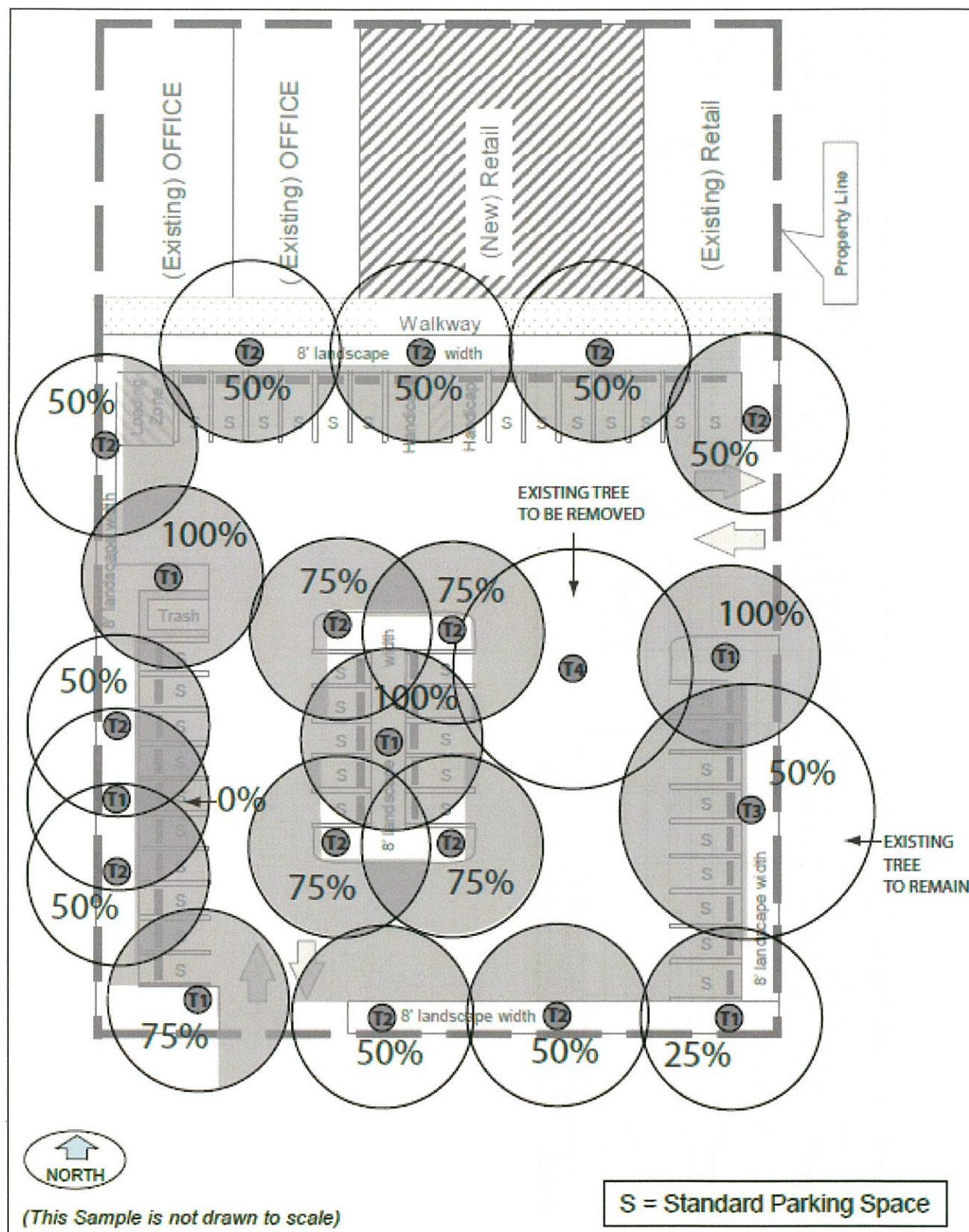


Figure B. Shade Calculation Table Example

PARKING LOT SHADE CALCULATION TABLE														Uncovered Parking Area:		16,000
Symbol	Species Name		Canopy Diameter	Canopy Area	100% Shade Credit		75% Shade Credit		50% Shade Credit		25% Shade Credit		Required Shade Area:	Provided Shade Area		
	Botanical	Common			Quantity	Area	Quantity	Area	Quantity	Area	Quantity	Area				
T1	Pistacia chinensis	Chinese Pistache	30	707	3	2121	1	530	0	0	1	177		2,827		
T2	x Chitalpa tashkentensis	Chitalpa	30	707	0	0	4	2121	9	3181	0	0		5,301		
T3	Quercus agrifolia	Coast Live Oak	35	962	0	0	0	0	1	481	0	0		481		
T4	Ficus benjamina	Weeping Fig	35	962	0	0	0	0	0	0	0	0		-		
				0		0		0		0		0		-		
				0		0		0		0		0		-		
				0		0		0		0		0		-		
				0		0		0		0		0		-		
Total Provided Shade Area :													8,610			
Diameters are in feet and areas are in square feet.																
Complete white cells only. Grey cells are calculated.													Percent Shade Coverage:	54%		

V. IRRIGATION

On average, trees need the equivalent of one inch of rain every 7 to 10 days, which is less than the normal rainfall in Los Angeles County. Generally it will take one full year per inch of trunk diameter for a tree to get established (e.g. It will take 3 years for a 3 inch caliper/diameter tree to establish itself). To ensure that newly planted trees, which have a limited root system, survive until they are established, Title 22 Part 20 requires that trees, for certain projects, not planted in turf have irrigation systems. To ensure that required trees are irrigated appropriately, it is recommended that irrigation systems be designed, installed and programmed by a certified irrigation professional.

Following, is a recommended watering schedule for a newly planted 15 gallon tree:

- Month 1: Twice a week.
- Months 2–3: Once a week.
- Months 4–7: Once every two weeks.
- Months 8–12: Once every three weeks.
- Years 1-3: Once every four to five weeks.
- Years 4–5: Once every five to six weeks.

Fifteen gallons of water per tree is generally recommended for each watering. However, actual watering requirements vary based on the trees species. The Tree Species List indicates water requirements for each species.

It is recommended that both newly planted trees and mature trees be watered until water stops soaking in the ground because the soil has become saturated and reached its water-holding capacity. Sandy soils will drain quicker than soils with clay. It is best to check the soil for moisture about four inches down before watering. If it's really wet, don't water, even though the schedule says to.

In drought conditions, even older trees will start to show symptoms of drought stress and will need supplemental water although less frequently than younger trees. Established drought tolerant species may also need supplemental watering with continued drought.

VI. RESOURCES

Following, are online resources that include helpful information about tree planting such as: benefits, placement, species selection, planting techniques and maintenance (including pruning and care). Also, websites for relevant professional organizations are provided.

Miscellaneous

These resources are ordered by potential usefulness.

Trees Are Good: <http://www.treesaregood.com/treeowner/treeownerinformation.aspx>

TreePeople: <http://www.treepeople.org/>

US Forest Service's Large Tree Argument

http://www.fs.fed.us/psw/programs/uesd/uep/products/cufr_511_large_tree_argument.pdf

Smart Landscaping and Energy Efficiency

https://www.firstenergycorp.com/content/customer/help/saving_energy/trees.html

Tree Benefit Calculator: www.treebenefits.com

Adverse Effects of Topping (over pruning crowns): <http://www.urbantree.org/topping.asp>

Dig Alert (for underground utilities): <http://www.digalert.org/home.html>

Cal Poly San Luis Obispo, Urban Forest Ecosystems Institute: <http://selectree.calpoly.edu/>

Professional Organizations

American Society of Landscape Architects: <http://www.asla.org/>.

American Society of Consulting Arborists (ASCA): <http://www.asca-consultants.org/>

International Society of Arboriculture (ISA): <http://www.isa-arbor.com/>

Irrigation Association: <http://www.irrigation.org/>

Tree Care Industry Association (TCIA): <http://tcia.org/>

ATTACHMENT A – TREE SPECIES LIST